

***FLORIDA DEPARTMENT OF TRANSPORTATION***

***GUIDELINE FOR  
ESTABLISHING CONTRACT  
DURATION***

***JUNE '02***

### ***BASIS OF PRODUCTION RATES:***

#### ROW Preparations:

Clearing and grubbing (Acres): The removal of top soil, trees, minor physical objects and other vegetation from the construction site using mechanical equipment.

Excavation (C.Y.): The removal and transporting of in situ soils on the construction site using mechanical equipment.

Embankment (C.Y.): The placing and compaction of soil on the construction site using mechanical equipment.

#### Drainage Structures/Storm Sewers:

Storm Sewers (L.F.): The excavation, installation, and backfilling of drainage or sewer pipes including structures.

Box Culverts (C.Y.): The excavation, forming, reinforcing, pouring, finishing, stripping, and backfilling of cast in place concrete box culverts on the construction site. If using precast units, then the units should be changed to L.F. and appropriate production rates substituted.

Inlets & manholes (Each): The installation of premanufactured inlets manholes for drainage or sewer systems. Time is included in Pipe.

Bridge Structures: (Note: The production rates on several items appear low since they must include time for the total scope of activities necessary to complete an item.)

Cofferdams (S.Y.): The installation, dewatering and minor excavation associated with building a cofferdam system for a bridge construction site.

Sheet Piling (S.F.): The installation of sheeting for retaining walls and deep excavations. Do not add to cofferdams.

Piling (L.F.): The installation of piling for bridge foundations.

Footings (C.Y.): The layout, forming, reinforcing, placing, curing and removing forms for reinforced concrete bridge footings.

Columns, Caps & Bents (C.Y.): The layout, forming, reinforcing, placing, curing and removing forms for reinforced concrete bridge columns, caps and bents.

Wingwalls (S.Y.): The layout, forming, reinforcing, placing, curing and removing forms for reinforced concrete wingwalls for bridges.

Bridge deck (total depth)(C.Y.): The layout, forming, reinforcing, placing, curing and removing forms for reinforced concrete bridge decks. The production rates have been set to include time for all components of the deck, including precast plank under slab, thus the full depth of the deck is used to calculate quantity.

Bridge curbs/walks (L.F.): The layout, forming, reinforcing, placing, curing and removing forms for reinforced concrete bridge curbs and walkways.

Bridge handrails (L.F.): The layout, forming, reinforcing, placing, curing and removing forms for cast in place reinforced concrete bridge handrails.

Retaining walls (S.F.): The layout, excavation, forming, reinforcing, placing, curing and removing forms for cast in place reinforced concrete retaining walls. The time for precast proprietary wall systems is included in embankment.

Base Preparations:

Stabilized Roadbed (S.Y.): The placement, mixing and compaction operations involved in the stabilization of subgrade soils.

Base material (S.Y.): The placement, mixing and compaction of flexible base material.

Hot mix asphalt base (Ton): The laydown and compaction of hot mix asphalt concrete base course material. The production rates are taken from the graph for plant mix.

Curb and gutter (L.F.): The layout and construction of new roadway curb and gutter using automated equipment or forms and hand finish.

Concrete pavement repair (S.Y.): The removal and replacement of sections of unsatisfactory or failed Portland cement concrete pavement.

Milling/planning (S.Y.): The removal of the surface level of existing pavements using automated milling or planning equipment.

Plant mixed surfaces (Ton): The laydown and compaction of hot mix asphalt concrete surface course material. The production rate is taken from the graph for Plant Mix.

Asphalt Friction Course (1 course) (S.Y.): The laydown and compaction of asphalt concrete friction course material.

Cement Concrete paving (Rebar + curing) (S.Y.): The layout, reinforcing, placing, curing and jointing of Portland cement concrete pavement.

Precast traffic barriers (L.F.): The layout and installation of precast concrete traffic barriers. If barriers are to be cast in place, then the units should be changed to C.Y. and the production rates adjusted accordingly.

Permanent Signing and Traffic Signals:

Small Signs (Each): The installation of small highway information and warning signs mounted on metal posts driven into soil along a highway.

Overhead signs (Each): The installation of large highway information and directional signs mounted on metal frames over a highway. It is assumed that the footings and poles that support the frames are already in place.

Major traffic signals (Each): The installation of automated traffic signals and their support systems at highway intersections.

Pavement markings (L.F.): The application of paint or thermoplastic pavement marking materials to a highway pavement.

Raised Pavement Markers (RPM) (Ea.): The application of adhesive and raise pavement markers.

Seeding (S.Y.): The seeding of grasses, application of fertilizer and mulch, and cutting into soil.

Final clean-up (Sta.): The removal of debris, dirt and other construction materials from a highway pavement and adjacent right of way at the end of a construction project. The time for this activity is included in "General Time".

Structure demolition (WKDAYS): The demolition and removal of the materials for large structures (multi-story buildings, retaining walls, towers underground tanks, etc.) from the right of way of new construction projects.

Remove old structures (small) (WKDAYS): The demolition and removal of the materials for small structures (Single-story wood buildings, storage sheds, fences, road signs, etc.) from the right of way of new construction projects. Time for this is included in clearing and Grubbing.

Bridge demolition (WKDAYS): The demolition and removal of all materials for an existing bridge structure and related appurtenances (approaches, gates, signals, etc.).

Erect temporary bridge (WKDAYS): The layout and construction of a temporary bridge structure and related appurtenances for a highway construction project.

Remove temporary bridges (WKDAYS): The demolition and removal of all materials for a temporary bridges structure and related appurtenances for a highway construction project.

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**PRODUCTION RATES FOR ESTIMATING WORKING DAYS**

ACTIVITY	UNIT	LOW	AVE	HIGH	NOTES
ROADWAY					
CLEARING AND GRUBBING	Acre	1		10	Use low if there are a lot of utilities or large trees. Maximum 20 days
EXCAVATION/EMBANKMENT	CY				
See Graph for Earthwork Time (Regular, Lateral Ditch, Subsoil)					
EXCAVATION/EMBANKMENT	CY				
Truck Haul					
< 100,000 CY		900			
100,000-300,000			3800		
> 300,000				7500	
SHOULDER GRADING resurfacing only	Mile		1		
STABILIZED ROADBED	SY	1400	1600	1800	Maximum 10 days
BASE See graph for for Base Time					
MILLING EXISTING PAVEMENT	SY		8,000		Maximum 5 days Districts should require repaving the same day
CONCRETE PAVING	SY		5000		
PLANT MIX SURFACES	Tons				
See graph for Plant Mix Times					
BARRIER WALL-PERMANENT	LF	200	300	400	
CURB AND GUTTER	LF	400	600	800	
VALLEY GUTTER					
STRIPING	Mile		7		
REFLECTIVE PAVEMENT	EA	500		1000	For job quantity less than 5000 use low.
MARKERS					
GUARDRAIL	LF	200	400	1500	Use only when guardrail is substantial part of project.
LANDSCAPE					
SODDING	SY	1500	3000	5000	Maximum 3 days
SEEDING	SY		23,500		Maximum 5 days.
TREES AND SHRUBS					
Seedling	EA		800		
1 Gal	EA		400		
3 Gal	EA		200		
7 Gal	EA		100		
Larger	EA		30		
DRAINAGE					
STORM SEWERS	LF	100	200	400	Use low rate for depths > 5' or when dewatering required
Time calculated for storm sewers includes time for pipe, inlets, manholes, etc.					
BOX CULVERTS	CY	20	50	80	
BOX CULVERTS PRECAST	LF		50	150	

WINGWALLS	SF	100	150	200	
DITCH PAVING	SY		200		
BRIDGES					
PILING	LF	200	300	400	
DRILLED SHAFTS - BRIDGE	EA	.2		.3	
FOOTINGS	CY		10	30	
COFFERDAMS	SY	100	300		
COLUMNS, CAPS, AND BENTS	CY	4	10	12	
BEAM ERECTION - steel	LF		150		
BEAM ERECTION - PRECAST	LF	250	400	600	
BRIDGE DECK	CY	7	14	20	
BRIDGE BARRIER	LF		80	160	
BRIDGE HANDRAILS	LF	150	225	300	
RETAINING WALLS	SF	100	150	200	
MSE WALLS					Time included in embankment
ACROW BRIDGE	LF		7.5		
DEMOLITION					
BRIDGE	SF	270	375		
PARAPET	LF	50	100	180	
VARIOUS					
SIGN SMALL	EA	10		30	Sign job only
SIGN LARGE	EA	.2		.7	Sign job only
DRILLED SHAFT BASE	EA	.5		1	Signs, lighting, etc.
SIGNALS	EA				When signals constitute a substantial portion of the project 15 days per intersection
LIGHTING STANDARDS	EA				5 per day

**GENERAL TIME** 15 Calendar Days May be adjusted based on the scope of the work. Normally not used on a project that contains a flex-time provision or special acquisition time. (Moving in Preparatory to starting work, etc.)

#### **SPECIAL ACQUISITION PERIOD**

Calendar Days allowed prior to the first day of time charged to the contract. These are to allow time for special acquisition on specialized contracts.

##### **a. Resurfacing**

1 - 20,000 Tons	30 Days
20,001 - 60,000 Tons	60 Days

60,001 + Tons	90 Days
b. Signalization Use only when primary contract is signalization. Reconsider on jobs when “other work” exceeds 90 Days.	90 Days
c. Highway Lighting Use only when primary contract is lighting. Reconsider on jobs when “other work” exceeds 120 Days.	120 Days
d. Highway Lighting Conversion Mercury vapor to high pressure sodium	90 Days
e. Signals: Concrete Strain Pole Steel Mast Arms	90 Days 150 Days
f. Large Sign Structure	150 Days
g. Pump Station	12 Weeks

#### **Asphalt Tonnage**

5/8"	= 0.0313 X Sy
3/4"	= 0.0375 X Sy
1"	= 0.0500 X Sy
1 1/4"	= 0.0625 X Sy
1 1/2"	= 0.0750 X Sy
1 3/4"	= 0.0875 X Sy
2"	= 0.1000 X Sy
2 1/4"	= 0.1125 X Sy
2 1/2"	= 0.1250 X Sy
2 3/4"	= 0.1375 X Sy

#### **Conversion Chart**

3"	= 0.1500 X Sy
3 1/2"	= 0.1750 X Sy
4"	= 0.2000 X Sy
4 1/2"	= 0.2250 X Sy
5"	= 0.2500 X Sy
6"	= 0.3000 X Sy
7"	= 0.3500 X Sy
8"	= 0.4000 X Sy
9"	= 0.4500 X Sy







